Rhodora

JOURNAL OF THE

NEW ENGLAND BOTANICAL CLUB

Conducted and published for the Club, by

MERRITT LYNDON FERNALD, Editor-in-Chief

CHARLES ALFRED WEATHERBY
LUDLOW GRISCOM
STUART KIMBALL HARRIS
} Associate Editors

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The New England Botanical Club, Inc.
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RHODORA.—A monthly journal of botany, devoted primarily to the flora of the Gray's Manual Range and regions floristically related. Price, $2.00 per year, net, postpaid, in funds payable at par in United States currency in Boston; single copies (if available) of not more than 24 pages and with 1 plate, 20 cents, numbers of more than 24 pages or with more than 1 plate at higher prices (see 3rd cover-page). Volumes 1–8 or some single numbers from them can be supplied only at advanced prices which will be furnished on application; volumes 35–42 can be supplied at $4.00 per volume, net, and some single numbers from them only at advanced prices (see 3rd cover-page). Notes and short scientific papers, relating directly or indirectly to the plants of the northeastern states, will be considered for publication to the extent that the limited space of the journal permits. Forms will be closed five weeks in advance of publication. Authors (of more than two pages of print) will receive 25 copies of the issue in which their contributions appear. Extracted reprints, if ordered in advance, will be furnished at cost.

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CONTRIBUTIONS TO THE BOTANY OF MICHIGAN, NO. 18

Oliver A. Farwell

This paper deals with extension of ranges, the most interesting of which probably is the finding of *Solidago hispida* var. *tonsa* in Michigan.

Potamogeton capillaceus Poir. Anderson's Pond, Clifton, Keweenaw Co., no. 857, July 5, 1895.

This is the "*P. diversifolius* Raf." of Beal's *Michigan Flora*. In his monograph of the Linear-leaved North American Species of *Potamogeton* sect. *Axillares*, Fernald excludes Michigan from the range of distribution of this species, citing no specimens from this State. This collection from Michigan closes the gap between Wisconsin and New York, thus making the range continuous.

Chaetochloa viridis (L.) Scribn. var. minor (Koch) O. A. F. (var. *Weinmanni* (R. & S.) House). Lake Linden, no. 11130, Sept. 21, 1935; along the shores of Torch Lake, no. 11479, Aug. 11, 1936.

This purplish-bristled variety has been found in the Lake Superior country along roadsides in Houghton Co., extending the Michigan range far to the north.

Deschampsia cespitosa (L.) Beauv. On conglomerate shores of Lake Superior near Eagle Harbor, Keweenaw Co., no. 12537, July 30, 1940.

This species is limited by Fernald (Rhodora xxviii. 153 (1926) to Newfoundland and the western mountainous region. Michi-

gan is now included. The var. *glauca* (Hartm.) Lindm. f. also occurs and both are rare here.

JUNCUS INFLEXUS L. (*J. glaucus* Ehrh.) This European species is very abundant on wet banks near Hancock where it was discovered by F. J. Hermann in 1936. On the Quincy Hill, Houghton Co., no. 12735, Sept. 17, 1940.

It is otherwise known in North America only from New York, having been reported from Oneida Co. by House and from the Cayuga region by Wiegand and Eames. Superficially it looks like *J. balticus* but the plant is densely caespitose and glaucous and the inflorescence is more condensed.

JUNCUS MARGINATUS Rostk. With the preceding species and quite plentiful. No. 12760, Oct. 8, 1940.

This is far to the north of the range as generally given—Maine to Nebraska. Associated with these is

J. BOGOTENSIS HBK. var. COMPACTUS (Lej. & Court.) O. A. F. This is very scarce at this station, no. 12757, Oct. 8, 1940.

LINUM CATHARTICUM L. Purging Flax. Near the Central Mine, Keweenaw Co., no. 12555, Aug. 6, 1940.

Said to occur only in Newfoundland,[1] Nova Scotia, Maine,[2] New York[3] and Ontario, where it is chiefly adventive from Europe. It was found in abundance in grassy borders of U. S. Highway 41.

CAMPANULA ULIGINOSA Rydb. In swampy meadows, Meadow Mine, no. 12495, July 30, 1940; Cat Harbor, no. 12608, Aug. 8, 1940.

First time reported for the mainland of Keweenaw Co., Michigan. It has been reported by others from various parts of Michigan. H. T. Darlington reported it from the Porcupine Mountains and Cooper from Isle Royale. My sincere thanks are herewith tendered Dr. M. L. Fernald for the following list of sheets of this species from Michigan in the Gray Herbarium:—Grayling, Crawford Co., 1922, *C. V. Piper;* Fayette, 1901, *M. A. Barber;* Hamlin Lake, Ludington, Mason Co., 1910, *R. W. Chaney;* an old collection marked "Mich. State collection" by *Asa Gray;* Mud Lake, Cheboygan Co., *Ehlers*, no. 604; Turin, Marquette Co., 1901, *Barlow;* Isle Royale, 1901, *Cooper.*

[1] Fernald, RHODORA, XXXV. 15 and 277 (1933).
[2] Walter Deane, RHODORA, XIV. 56 (1912).
[3] House, N. Y. State Museum Bulletin, no. 266: 23 (1925).

SOLIDAGO HISPIDA Muhl. var. TONSA Fernald. On dry soil of exposed bluff, Lookout Mt., Keweenaw Co., nos. 12706 and 12710, Aug. 27, 1940.

Originally described as from Newfoundland, Quebec and New Brunswick, it is now found in the Lake Superior district.

HELIANTHUS LAETIFLORUS Pers. In dry open places, Oakwood, Wayne Co., no. 8822, Sept. 30, 1930. Shores of Torch Lake, Houghton Co., no. 12768, Oct. 14, 1940.

Not before reported for Michigan which is north of the general range as usually given.

LAKE LINDEN, Michigan.

ANOTHER CENTURY OF ADDITIONS TO THE FLORA OF VIRGINIA

M. L. FERNALD

(*Continued from page 630*)

*SYMPLOCOS TINCTORIA (L.) L'Hér., var. **pygmaea,** var. nov., frutex nanus 0.3–1.3 m. altus; foliis maturis elliptico-ovatis utrinque acutis 2–5.5 cm. longis 1–2.5 cm latis.—Southeastern VIRGINIA: white sand of dry pine barrens, south of Lee's Mill, Isle of Wight County, August 23 and September 2, 1940, *Fernald & Long,* no. 12,770 (TYPE in Herb. Gray; ISOTYPE in Herb. Phil. Acad.); open ground near Norfolk, May 17, 1877, *Thos. Morong.* See p. 519.

Typical *Symplocos tinctoria* is a large shrub or small tree (up to 6 m. high), with mature leaves 0.7–1.5 dm. long and 3–6 cm. broad. The small shrub of the pine barrens may prove, when we can secure flowering and fruiting material, to have other points of departure. Var. *Ashei* Harbison, described from the mountains of North and South Carolina, Georgia and Tennessee, is a tree or large shrub, with leaves much larger than in var. *pygmaea.*

APOCYNUM SIBIRICUM Jacq. Range extended south to ISLE OF WIGHT COUNTY: sandy beach of Burwell's Bay, James River, below Rushmere (Fergusson's Wharf), no. 12,777. Also PRINCE GEORGE COUNTY: woods and thickets back of beach of James River, Windmill Point, Flowerdew Hundred, no. 13,110.

ASCLEPIAS PURPURASCENS L. To the very few recorded stations add others in YORK, SUSSEX and GREENSVILLE COUNTIES (several nos.). See pp. 499 and 504.

CONVOLVULUS SEPIUM L., var. AMERICANUS Sims. To the single Virginian station (Buckroe, Elizabeth City County) cited by Tryon in RHODORA, xli. 420 (1939) add one in PRINCESS ANNE COUNTY: moist sandy depressions back of the dunes, Sand Bridge, no. 12,440.

*C. SEPIUM, var. FRATERNIFLORUS Mackenz. & Bush. HENRICO COUNTY: margin of canal from James River, Richmond, no. 12,171.

The range given by Tryon, op. cit. 422 is "Illinois to Montana, south to Arkansas and New Mexico". See p. 495.

*JACQUEMONTIA TAMNIFOLIA (L.) Griseb. JAMES CITY COUNTY: weed in abandoned corn-field about 5 miles west of Toano, *R. W. Menzel*, no. 349.

Pantropical weed, not previously recorded from north of South Carolina.

PHLOX MACULATA L. SUSSEX COUNTY: alluvial woods along Nottoway River at Readjuster Bridge, south of Peanut, no. 12,444.

Our first station on the Coastal Plain of Virginia. See p. 510.

HELIOTROPIUM EUROPAEUM L. To the few recorded stations add one in DINWIDDIE COUNTY: waste ground and cinders of freight-yard of Atlantic Coast Line, Petersburg, no. 12,172. See p. 493.

MYOSOTIS VERNA Nutt. To the very few stations in southeastern Virginia add one in HENRICO COUNTY: border of woods, east of Fulton Hall, no. 12,175.

I am taking up the unequivocal name *Myosotis verna* Nutt. Gen. ii. Addenda (1818) instead of the wholly equivocal *M. virginica* (L.) BSP. (1888) which has recently replaced it. The combination of Britton, Stern & Poggenberg, published without bibliographic reference to its basinym, was said in Britton's later works to rest upon *Lycopsis virginica* L. Sp. Pl. 139 (1753). That, in turn, rested wholly upon the *Lycopsis foliis linearilanceolatis*, etc. of Gronovius, Fl. Virg. pars. 2: 140 (1743), based upon a *blue-flowered* weed of a roadside, collected by Clayton: "flore minimo coeruleo . . . Crescit juxta vias publicas loco sterili"—Clayton's account quoted by Gronovius. A blue-flowered roadside weed can hardly be taken as identical with the white-flowered indigenous American plant. Just what Clayton had as the basis of *Lycopsis virginica* L. can be determined

only when the Clayton specimen (at the British Museum) can be critically studied. Whether it was one of the several blue-flowered Old World species of *Myosotis* adventive in America or perhaps a species of *Lappula* can only be surmised. It is not improbable that *Lycopsis virginica* L. (1753) may be the basinym for some European species!

M. MACROSPERMA Engelm. Local range extended into rich or alluvial woods of HENRICO, DINWIDDIE, SUSSEX and GREENSVILLE COUNTIES (many nos.). See p. 488 and MAP 1.

Myosotis macrosperma has been stretched to include large states of *M. verna* and its specific characters have, consequently, been quite obscured and its range made nearly coincident with that of the latter species. Restudy of the two shows that, whereas *M. verna,* a plant of thin or sterile soils, has three areas of development (New England to Minnesota, south to northern Florida, Tennessee, Oklahoma and Texas; Idaho to southern British Columbia, south to Wyoming and California; southern South America), *M. macrosperma* is a plant of rich, mostly calcareous woodlands and bottoms, with a broad austro-riparian range (Florida to eastern Texas, north to Maryland, the District of Columbia, Kentucky, southern Indiana, southern Illinois and Missouri). I distinguish the two as follows:

M. VERNA. Simple or with stiff upright branches, 1–4 dm. high; principal leaves 2–10 mm. broad; racemes in maturity elongating to 0.3–1.8 dm. long; fruiting pedicels 1–5(–6) mm. long, erect and nearly parallel with rachis, the lowest 0.5–2 cm. apart; fruiting calyx 4–6 mm. long, persistent on the pedicel, the tube with few straight or slightly hooked short bristles, the base with mostly reflexed and appressed strigae; nutlets 1–1.3 mm. broad, the strophiole 0.4–0.5 mm. broad.

M. MACROSPERMA. Lax or loosely branching stem 1.5–8 dm. long or high; principal leaves 0.5–1.7 cm. broad; central raceme in maturity elongating to 1.2–4.7 dm. long; fruiting pedicels 3–10 mm. long, loosely spreading-ascending from base, the lowest 2–5 cm. apart; fruiting calyx 5.5–9 mm. long, promptly disarticulating from tip of pedicel, the tube covered to base with hundreds of strongly hooked upcurving long bristles (enabling fruiting calices to adhere to passing animals); nutlets about 2 mm. broad, the strophiole 0.5–0.8 mm. broad.

*LITHOSPERMUM CAROLINENSE (Walt.) MacM. SUSSEX COUNTY: dry sandy woods and clearings near and south of Chub, nos. 12,173, 12,449 (narrow-leaved) and 12,450 (broad-leaved).

First from north of South Carolina. See pp. 498 and 506.

SCUTELLARIA PARVULA Michx., var. AMBIGUA (Nutt.) Fernald. SUSSEX COUNTY: sandy open woods, thickets and clearings by Nottoway River, below Peters Bridge, southeast of Lumberton, no. 12,458.

Our first Coastal Plain station for a characteristically inland plant. See p. 507.

S. NERVOSA Pursh. DINWIDDIE COUNTY: rich sandy and loamy wooded slopes and clearings along Appomattox River, just above the "fall-line," about 2 miles west of Petersburg, no. 11,905.

An upland species here closely approaching the Coastal Plain. See p. 490.

*LAMIUM AMPLEXICAULE L., forma CLANDESTINUM (Reichenb.) G. Beck. GREENSVILLE COUNTY: lawns and grassland, Emporia, no. 11,725.

Flowers minute and cleistogamous; our other collections from southeastern Virginia have showy and expanded corollas. See p. 486.

STACHYS NUTTALLII Shuttlew. To the extraordinarily isolated station already reported add another, also in SURRY COUNTY: thicket back of sand-beach of Cobham Bay, James River, northwest of Chippokes, no. 12,788; stems up to 1.5 m. high, with moniliform inflorescences up to 3 dm. long. See pp. 520 and 521.

MONARDA MOLLIS L. SOUTHAMPTON COUNTY: waste ground, Franklin, no. 12,460.

Our first Coastal Plain station; probably from garden-refuse.

PYCNANTHEMUM TORREI Benth. SOUTHAMPTON COUNTY: rich woods and thickets near Raccoon Creek, north of Mill Neck Church, no. 12,462.

Our first Coastal Plain station for an upland species; identification confirmed by Miss Elizabeth Boomhour. See p. 508.

CUNILA ORIGANOIDES (L.) Britton. Local range extended to SURRY COUNTY: dry wooded slopes of ravines west of Claremont, no. 12,789. See p. 521.

LYCOPUS EUROPAEUS L. To the few recorded stations add the following. SURRY COUNTY: springy swale by Cobham Bay, James River, northwest of Chippokes, no. 12,790. ISLE OF WIGHT COUNTY: along path in cypress and gum swamp back of beach of Burwell's Bay, James River, below Rushmere (Fergusson's Wharf), no. 12,791.

MENTHA LONGIFOLIA (L.) Huds. To the few recorded stations add one in KING WILLIAM COUNTY: border of fresh tidal marsh of Pamunkey River, Sweet Hall, no. 12,792.

Verbascum Lychnitis L. York County: open thicket by York River above Yorktown, no. 12,181. See p. 505.

Veronica hederaefolia L. Henrico County: abundant in an open field, Fulton Hall, no. 11,726. See p. 486.

Pedicularis lanceolata Michx. To the few known Coastal Plain stations add one in Surry County: wooded swamp west of Claremont, no. 12,809. See p. 520.

*Justicia **umbratilis,** sp. nov. (tab. 693, figs. 1–3), *J. humili* simillima; rhizomatibus valde elongatis ramosis 3–7 mm. crassis; caulibus 2–6 dm. altis; foliis oblongo-lanceolatis vel anguste elliptico-oblongis primariis 5–9 cm. longis 1.5–3.5 cm. latis apice basique subacuminatis petiolatis; pedunculis 3.5–10 cm. longis; spicis compactis subcapitatis floribus valde imbricatis 1.5–3 cm. longis; corollis pallide violaceis vel lilacinis 1.5–2 cm. longis, labio superiore recurvato, labii inferioris lobis planis divergentibus oblongis vel ellipticis integris; seminibus brunneis quadrato-rotundatis 2.8–3 mm. longis minute subacuteque rugulosis.—Low dark woods, bottomlands and shaded margins of slow streams and pools, southeastern Virginia: Southampton Co.: bottomland woods along Nottoway River, Monroe Bridge, June 22, 1941, *Fernald & Long,* no. 13,162 (type in Herb. Gray; isotype in Herb. Phil. Acad.); margin of Nottoway River at Round Gut, south of Franklin, June 12, 1941, *Fernald & Long,* no. 13,162; margin of Nottoway River below Point Beach, south of Franklin, July 20, 1939, *Fernald & Long,* no. 10,820. Nansemond County: muddy tidal margin of Blackwater River, Cox Landing, south of South Quay, September 22, 1939, *Fernald & Long,* no. 11,441. Prince George Co.: "Cat-tail Swamp", river-swamp of Blackwater River, north of Disputanta, June 21, 1936, *Fernald, Long & Smart,* no. 5921. Surry Co.: bottomland woods, Blackwater River, about 1 mile southwest of Dendron, July 14, 1941, *Fernald & Long,* no. 13,159; margin of sluggish stream, Cypress Swamp, near Sexton, June 17, 1941, *Fernald & Long,* no. 13,161. See p. 494.

For six years we have been puzzled by *Justicia umbratilis.* During 1939 and 1940 we became convinced of its distinctness but not until June, 1941, did we have the opportunity to compare side-by-side fresh flowers of *J. umbratilis* and those of *J. americana* (L.) Vahl and of *J. humilis* Michx. (*J. ovata* (Walt.) Lindau, not Dietr.). In its relatively coarse and extensively creeping rhizomes, in its capitate spikes, and in its pebbled seeds without conspicuously differentiated rims *J. umbratilis* is as near to *J. americana* as to *J. humilis,* with which it grows. Its flowers (fig. 2), however, are, both corolla and

anthers, more like those of *J. humilis* (fig. 7); for the arched-recurving lower lip of the corolla of *J. americana* (figs. 4 and 5) has the central lobe somewhat constricted above the base and the margins are strongly reflexed, the lobes white or whitish-lilac above, the narrow basal shield with brownish-purple and white markings, and the terminal anther is horizontally transverse (fig. 4), the lower ascending one muticous at both ends. The corollas of *J. umbratilis* and of *J. humilis* are violet to lilac throughout, except that the deltoid shield has a white background, with deep violet margins and spots. Their lower lips (figs. 2 and 7) are flat, the margins of the median lobe not reflexed; and the terminal anther is oblique, the lower erect one pointed at base (figs. 2 and 7). In texture (firm and opaque) the corolla of *J. umbratilis* (fig. 2) is like that of *J. americana* (figs. 4 and 5), the corolla of *J. humilis* (fig. 7) being very thin and translucent. In its very prolonged and branching rhizomes *J. umbratilis* suggests the narrower-leaved *J. americana* but these are deep in the mud in *J. umbratilis*, superficial and somewhat coarser in *J. americana*. The seeds of the two are similar but those of *J. americana* (fig. 6) are drab or pale brown, round-reniform and covered with low and broad flattish pebbling, resembling the pattern of dried and crackled clay. The seeds (fig. 3) of *J. umbratilis* are deep brown or fulvous, quadrate-orbicular, and covered with very small acutish pebbling.

In its flowers *Justicia umbratilis* is very similar to *J. humilis*, but the corolla is of thicker texture, the lateral lobes of its lower lip wide apart, while the thin-textured corollas of *J. humilis* have the porrect lobes of the lower lip approximate. The latter species (figs. 7 and 8), furthermore, has the slender rhizomes less extensively creeping and only 2–4 mm. thick; the stems only 1–3 (rarely –5) dm. high; the leaves more rhombic in outline; the peduncles mostly 1–5 (rarely –8.5) cm. long; the spikes more open, with the flowers becoming scattered or subdistant, the well developed spikes in full anthesis 1.5–5 cm. long; and the more orbicular seeds (fig. 8) smooth or only faintly and minutely pebbled, with a conspicuous broad and thick entire or merely undulate-dentate rim. *J. umbratilis* has more elongate, more branching and thicker (3–7 mm. thick) rhizomes; usually taller stems (mostly 3–6 dm. high); narrower and scarcely rhombic

leaves; mostly longer peduncles, 3.5–10 cm. long; dense and subcapitate spikes, the crowded flowers closely imbricated, the spikes in full anthesis only 1.5–3 cm. long; seeds quadrate, without distinctly differentiated rim, and the surfaces smooth or with obscure minute pebbling.[1]

In Virginia *Justicia umbratilis* is known only from the southeastern counties, chiefly in dense shade. At the southern margin of its range in the state it associates with *J. humilis*. Since the latter species is highly localized in the state and since its nomenclature is involved, the following paragraphs may be helpful.

J. HUMILIS Michx. Fl. Bor.-Am. i. 8 (1803), photographs of type-sheets in Gray Herb. *Dianthera ovata* Walt. Fl. Carol. 63 (1788). *D. humilis* (Michx.) Gray, Syn. Fl. N. Am. ii[1]. 329 (1878), by Gray and by *Index Kewensis* cited as starting in Engelm. & Gray in Bost. Journ. Nat. Hist. v. 234, repr. as Pl. Lindh. i. 22 (1845), where the mere name was published, without description, bibliographic reference or citation of basinym. *J. ovata* (Walt.) Lindau in Urban, Symbol. Ant. ii. 237 (1900), not Dietr. in Steud. Nom. ed. 2, i. 838 (1840).

The following Virginian specimens of *Justicia humilis* are before me. SOUTHAMPTON COUNTY: wet woods, Assamoosick Swamp, south of Sebrell, no. 10,425; alluvial wooded bottomland of Nottoway River, Cypress Bridge, no. 8466; alluvial woods, bottomland of Mill Creek, Hart's Bridge, no. 8467; about Franklin, *Heller*, no. 987; bottomland woods, Nottoway River,

[1] In studying *Justicia* it has been found desirable to set off a southwestern variety of *J. americana* as

J. AMERICANA (L.) Vahl, var. **subcoriacea**, var. nov., caulibus firmis 2–8 dm. altis pallidis; foliis subcoriaceis pallidis imbricatis oblongis vel lanceolatis vel elliptico-ovatis obtusis vel subacutis, primariis 4.5–15 cm. longis 1–3 cm. latis sessilibus; pedunculis erectis capitulis elevatis.—TEXAS: South Concho River, at Christoval, Tom Green County, June 5, 1934, *Cory*, no. 8860, as *Dianthera ovata* (TYPE in Herb. Gray); Nueces River, 11½ miles south of Uvalde, Zavalla County, October 24, 1934, *Cory*, no. 11,959, as *Dianthera ovata;* bed of small stream, 5 miles south of Fort Worth, June 5, 1912, *A. Ruth*, no. 267, as *D. ovata;* Tarrant County, June 5, 1923, *Ruth*, no. 267; 4 miles northwest of Medina, Bandera County, May 25, 1937, *Cory*, no. 23,530, as *D. ovata;* Cibolo Creek, east of Bulverde, Bexar County, May 2, 1933, *Cory*, no. 6079, as *D. ovata*. OKLAHOMA: edge of creek, Cache, Comache County, June 25, 1913, *G. W. Stevens*, no. 1339, as *D. ovata;* Fort Sill, Comanche County, June, 1916, *Mrs. J. Clemens*, no. 11,781; wet clay, meadow west of Claremore, Rogers County, July 2, 1939, *U. T. Waterfall*, no. 1465. KANSAS: Severy, June, 1905, *S. F. Poole*, no. 133. MISSOURI: Meramec River, *N. M. Glatfelder*.

In typical *Justicia americana* the elongate-lanceolate or -oblanceolate to lance-linear leaves are 0.8–2 dm. long and 0.5–2.5 (rarely –3) cm. broad. After flowering the leafy tip prolongs so that the erect or strongly ascending inflorescences are well overtopped by the leafy tip. In var. *subcoriacea* the firmer and pale leaves are more crowded, broader, shorter and blunter, and the peduncles elevate the flowering heads well above the foliage.

Monroe Bridge, nos. 13,163 and 13,164; wooded bottomland of Blackwater River, southeast of Ivor, no. 13,763. ISLE OF WIGHT COUNTY: bottomland woods along Blackwater River above Broadwater Bridge, north of Zuni, no. 13,456. NANSEMOND COUNTY: wooded bottomland of Somerton Creek, near Factory Hill, nos. 8468 and 8855. See p. 493.

In PLATE 693, FIGS. 1–3 are of JUSTICIA UMBRATILIS: FIG. 1, the TYPE, × 2/5; FIG. 2, portion of spike, × 3, from *Fernald & Long,* no. 13,159; FIG. 3, seed, × 8, from the TYPE. FIGS. 4–6, J. AMERICANA (L.) Vahl: FIG. 4, corolla, × 3, from James River, east of Scotland, Virginia, *Fernald & Long,* no. 13,155; FIG. 5, to show shield on middle lobe of lower lip, × 3, from no. 13,155; FIG. 6, seed, × 8, from Oneida Lake, New York, *Muenscher,* no. 195. FIGS. 7 and 8: J. HUMILIS Michx.: FIG. 7, portion of corolla (recurving tip of upper lip covering anthers), × 4½, from Monroe Bridge, Southampton Co., Virginia, *Fernald & Long,* no. 13,164; FIG. 8, seed, × 8, from Hart's Bridge, Southampton Co., Virginia, *Fernald & Long,* no. 8467.

UTRICULARIA INFLATA Walt., var. MINOR Chapm. (*U. radiata* Small). SOUTHAMPTON COUNTY: floating at border of Predler's Pond, Nottoway Swamp, southwest of Sedley, no. 8463.

In RHODORA, xli. 122 (1939) Rossbach stated that the "range of var. *minor* is disrupted, it having been collected from . . . Maine, south near the coast commonly to New Jersey, then becoming very local, if not lacking southward, reappearing in pine barrens of . . . Florida". We have seen it in Virginia only in Predler's Pond, but Mr. Lloyd C. Carr reported it in Claytonia, iv. 24 (1937) from Augusta County; and recent collections from South Carolina and from Delaware, in addition to the Virginian specimens, materially close the implied gap in the known range.

U. VULGARIS L. *U. vulgaris,* var. *americana* Gray, Man. ed. 5: 318 (1867); *U. macrorhiza* Le Conte in Ann. Lyc. N. Y. i. 73 (1824). KING WILLIAM COUNTY: fresh tidal shore of Mattaponi River, at Horse Landing, near King William Courthouse, no. 11,619. NORFOLK COUNTY: rills and pools, Great Dismal Swamp, west of Yadkin, no. 11,146.

Utricularia vulgaris, as *U. macrorhiza,* was assigned a range by Barnhart in Britton & Brown, Ill. Fl. ed. 2, iii. 229 (1913): "south to Maryland, Missouri", etc., but in Small, Man. 1236 (1933) Barnhart admitted it as a Virginian but only doubtfully from North Carolina. The Great Dismal Swamp is partly in North Carolina and the plant is presumably in that state.

In the former work he assigned the stems a length of 1–3 feet ("Stems 1°–3° long") and explained his segregation of the

Photo. B. G. Schubert.

JUSTICIA UMBRATILIS: FIG. 1, TYPE, × 2/5; FIG. 2, flowering spike, × 3; FIG. 3, seed, × 8.

J. AMERICANA: FIG. 4, corolla (dense and opaque), × 3; FIG. 5, shield on lower lip and horizontal terminal anther, × 3; FIG. 6, seed, × 8.

J. HUMILIS: FIG. 7, corolla (translucent), × 3; FIG. 8, seed, × 8.

Photo. W. H. Hodge.

UTRICULARIA VULGARIS

Flowers, × ¾–× 1: FIGS. 1 and 2–5 Eurasian; FIGS. 2 and 6–15 North American. Rudimentary stolons, × 1, all (FIGS. 16–19) North American.

American *U. macrorhiza* from the Eurasian *U. vulgaris* as follows. "Very variable, but appears to differ constantly from the related and equally variable European species, *Utricularia vulgaris* L., by the longer stems, the shape and direction of the spur, and the minuteness of the appendages (rudimentary stolons) at the base of the scape".

There is no question that the species is variable, but I match very closely variations of the Eurasian and North American specimens. As to our plant differing, as Barnhart thinks, "by the longer stems", it is significant that in Britton & Brown, l. c., he says of the American "Stems 1°–3° long" and in Small, l. c. "Stems . . . 3–10 dm. long" but that Hegi, Ill. Fl. Mittel-Eu. vi[1]. 168 (1914) should describe the European plant "Sprosse . . . bis 2 m. . . . lang" and that Hugo Glück, who devoted his life to study of hydrophytes, should describe the European plant as "30–200 cm. lang". 200 cm. is the same as 2 m., twice the extreme length given by Barnhart for the American plant with reputedly "longer stems". Glück's longest specimens were collected "bei Viernheim in Hessen",[1] not in North America. As a matter of fact, the maximum length of 3 feet or of 10 dm. given for the American plant could safely have been increased. Our no. 11,146 from the Great Dismal Swamp shows stems 1.2 m. long; so does *Victorin, Rolland & Jacques,* no. 33,854 from New Richmond, Quebec, while a sheet in the herbarium of the New England Botanical Club, collected by Walter Deane from a creek at Gilead, Maine, shows a length of 1.4 m. Even these specimens from North America do not equal the 2 m. recorded by Hegi and by Glück for the European plant, though it is probable that devotion to the task might yield an American specimen as long as the longest European.

The difference in "the shape and direction of the spur" was not defined by Barnhart. From dried material alone the exact form of the corolla is difficult to make out; but the pressed flowers show parallel variations in both Eurasian and North American series. Some of these are shown in PLATE 694, FIGS. 1–15: FIGS. 1 and 3–5 from Eurasian specimens, FIGS. 2 and 6–15 from North American. FIG. 2 shows the flowers (× ¾) of the American plant, as illustrated in Britton & Brown, ed.

[1] Glück, Biol. Morph. Untersuch. Wasser- und Sumpfgew. ii. 30 (1906).

2, iii. fig. 3867, where Barnhart felt that our plant "appears to differ constantly from . . . *U. vulgaris* L. by the . . . shape and direction of the spur"; FIG. 7 is from a painting of the fresh flowers, × ¾, of the American plant (from eastern Massachusetts) by the late Elsie Louise Shaw, whose remarkable series of paintings of native American plants has just been presented to the Gray Herbarium in her name by Julia Howe Shaw; FIG. 1 is copied from the plate of the European plant in Reichenbach's Icones. I am puzzled to see the difference in the spur. So with the other figures, some from Eurasian, some from American specimens, they show great variation on both continents, but the differentiation of even var. *americana* Gray (to say nothing of a purely American species) by a more slender and acutish spur becomes wholly artificial.

As to the occasional production in the Old World series of "rudimentary stolons at the base of the scape", they are sufficiently unusual there as to result in special note of them. The illustration in Britton & Brown to show their "minuteness" in America is indeed minute; but, as Rossbach points out in RHODORA, xli. 118 (1939), they are frequently elongate in North America. In the American specimens before me they are present in 43 numbers and often as long as in the European plants. Some of the American specimens with such prolonged rudimentary stolons at the base of the scape are shown in FIGS. 16–19. As a character distinguishing the American *U. macrorhiza* from the Eurasian *U. vulgaris* the "minuteness" of these structures is no more constant that the other points which have seemed to some botanists besides Barnhart sufficient for specific differentiation of the two. Until those who see two species bring forward a series of stable characters it seems better to treat the variable Eurasian and the equally variable North American plants as a single circumboreal species, *U. vulgaris* L., comparable in its distribution with the circumboreal *U. minor* L. and *U. intermedia* Hayne. Incidentally, the inappropriate name, *U. macrorhiza*, for a free-floating plant will thus sink into synonymy.

In PLATE 694, of details of UTRICULARIA VULGARIS, all figures are × ¾–× 1. FIGS. 1–15, flowers: FIG. 1, from Germany, after *Reichenbach;* FIG. 2, North American, after *Britton & Brown;* FIG. 3, European, after *Hegi;* FIG. 4, from Jalatum, Manchuria, *Dorsett & Dorsett,* no. 3496; FIG. 5, from Irkutsk,

Siberia, *Stubendorff;* FIG. 6, from Woodstock, New Hampshire, *Fernald,* no. 15,570; FIG. 7, from Lexington, Massachusetts, *E. L. Shaw;* FIG. 8, from Norwood, Massachusetts, June 23, 1895, *E. F. Williams;* FIG. 9, from Concord River, Bedford, Massachusetts, August 23, 1884, *C. W. Jenks;* FIG. 10, from Fort Saskatchewan, Alberta, *G. H. Turner,* no. 25; FIG. 11, from Lake Athabasca, Saskatchewan, *Raup,* no. 6624; FIG. 12, from Ann Arbor, Michigan, *F. J. Hermann,* no. 6896; FIG. 13, from Phalanx, Ohio, *A. N. Rood,* no. 64; FIG. 14, from Worcester, Massachusetts, 1890, *G. E. Stone;* FIG. 15, from vicinity of Rosedale, Alberta, *Moodie,* no. 1133. FIGS. 16–19, rudimentary stolons, × 1: FIG. 16, from Round Lake, Wood Buffalo Park, Mackenzie Basin, *Raup,* no. 3142; FIG. 17, from Lake-of-the-Woods, Klamath County, Oregon, *J. W. Thompson,* no. 13,109; FIG. 18, from Lake Athabasca, Saskatchewan, *Raup,* no. 6624; FIG. 19, from Lake James, Steuben County, Indiana, *Deam,* no. 20,241.

U. GEMINISCAPA Benj. To the few recorded stations add one in SUSSEX COUNTY: shallow pond in woods northeast of Homeville, no. 12,187.

OROBANCHE UNIFLORA L. SURRY COUNTY: rich wooded ravines near James River, west of Ingersoll, no. 11,907. See p. 488.

GALIUM PARISIENSE L. To the few recorded stations add one in HENRICO COUNTY: cinders of Chesapeake and Ohio Railroad, west of Elko Station, no. 12,190. See p. 498.

G. CIRCAEZANS Michx., var. HYPOMALACUM Fern. HENRICO COUNTY: rich wooded slopes by James River, west of Varina, no. 12,191.

The upland and inland extreme.

*RICHARDIA BRASILIENSIS (Moq.) Gomez. HENRICO COUNTY: waste places and railroad ballast, Richmond, nos. 12,816–12,818. DINWIDDIE COUNTY: similar habitat, Petersburg, no. 12,481. See pp. 511 and 515.

A South American species becoming naturalized in temperate and tropical North America. Small (Man.) records it only from peninsular Florida, but in southeastern Virginia it has come to stay. Small's differentiation of the two species, *R. brasiliensis* and *R. scabra,* the former as perennial, the latter as annual, is unsatisfactory, for *R. brasiliensis,* though becoming perennial with a deep and thickened root, may fruit the first year. In *R. scabra* the calyx-lobes are united only at base and 3–4 times as long as the ovary, the corolla hypercrateriform, with the lobes much exceeding the stamens, and the cocci of the fruits ventrally sulcate; in *R. brasiliensis* the calyx-lobes are more united and little exceeding the ovary, the corolla infundibuliform, its lobes little exceeding the stamens, and the cocci of the fruits are keeled on the ventral side (these characters derived from Schumann's treatment in Flora Brasiliensis).

Besides the Virginian material the following specimens of *Richardia brasiliensis* are in the Gray Herbarium from north of Florida.

NORTH CAROLINA: sandy roadside bank 1 mile east of Delco, Columbus Co., July 5, 1927, *Wiegand & Manning*, no. 3015; dry sandy soil, waste ground, 2 miles south of Wilmington, July 25, 1922, *L. F. & F. R. Randolph*, no. 1007; roadside near Wilmington, *Godfrey & Shunk*, no. 4221. SOUTH CAROLINA: sandy roadside bank, 1 mile west of Marion, Marion Co., *Wiegand & Manning*, no. 3013; roadside gravel, 10 miles northwest of Charleston, *Godfrey & Tryon*, no. 702; damp sandy roadside, 3 miles southeast of Waterboro, Colleton Co., *Wiegand & Manning*, no. 3016.

There are also specimens from Alabama and Texas.

*DIODIA TERES Walt., var. **oblongifolia,** var. nov., a var. *typica* differt caulibus valde depressis; foliis oblongis vel oblongo-ellipticis 1–2.5 cm. longis 5–8 mm. latis; stipulis vix fructibus aequantibus; fructibus 3–3.5 mm. longis valde hispidis, pilis divergentibus.—Southeastern VIRGINIA: disturbed white sand of dry woods and clearings east of Joyner's Bridge, Isle of Wight County, July 17, 1940, *Fernald & Long*, no. 12,480; dry sandy roadside at crossing of Southern Railroad, Lee's Mill, Isle of Wight County, August 24, 1936, *Fernald & Long*, no. 6698; disturbed white sand of dry pine barrens, south of Lee's Mill, July 11, 1940, *Fernald & Long*, no. 12,479; same locality, August 23 and September 2, 1940, *Fernald & Long*, no. 12,820 (TYPE in Herb. Gray, ISOTYPE in Herb. Phil. Acad.); waste ground, Franklin, September 11, 1941, *Fernald & Long*, no. 13,767; railroad ballast, Richmond, Fredericksburg and Potomac Railroad, Richmond, August 19, 1940, *Fernald & Long*, no. 12,819. See pp. 508 and 514.

Var. *oblongifolia* is at once recognized by its oblong and broad-based leaves, by its relatively short stipules and by the spreading-hispid fruit. In the latter and in its foliage it approaches var. *hystricina* Fernald & Griscom in RHODORA, XXXIX. 307, t. 469, figs. 2 and 3 (1937), but var. *hystricina* has strongly hispid or hirsute stems, narrower and more elongate leaves (when well developed 1.5–4.5 cm. long), the more densely hispid fruit 3.8–5 mm. long. Var. *oblongifolia* has puberulent stems, short and broad leaves only 1–2.5 cm. long, and short-hispid fruits only 3–3.5 mm. long. Typical *D. teres* is usually not depressed and it has linear to linear-lanceolate and elongate leaves and the bristles of the stipules greatly overtop the fruits.

Viburnum **recognitum,** nom. nov. *V. dentatum* L., α. *lucidum* Ait. Hort. Kew. i. 372 (1789), not *V. lucidum* Mill. Gard. Dict. ed. 8, no. 5 (1768). *V. dentatum* sensu most authors, not L. Sp. Pl. 268 (1753) nor Svenson in Rhodora, xlii. 5, pl. 586 (1940).

Viburnum dentatum L. and *V. pubescens* (Ait.) Pursh have been much discussed in recent years, first by Blake,[1] later by Svenson.[2] It is, therefore, tedious at least to continue the discussion. I fully concur in Blake's decision that the type of *V. pubescens* (Ait.) Pursh belongs in the more southern series with usually pubescent branchlets, including *V. venosum* Britton; I also agree, from Svenson's notes upon and photograph of the type of *V. dentatum* L., that it has long been misinterpreted (or not examined) and that it is inseparable from *V. venosum,* var. *Canbyi* Rehder.

I am not prepared, however, to follow Svenson in reducing to the variable and usually pubescent *V. dentatum* (= *V. venosum*) merely as a glabrous-twigged variety the usually more northern shrub which has regularly passed as *V. dentatum,* i. e. *V. dentatum* α. *lucidum* Ait. The two species, true *V. dentatum* L. (including *V. pubescens* (Ait.) Pursh, *V. scabrellum* (T. & G.) Chapm., *V. venosum* Britton, *V. longifolium* Loddiges ex Zabel and *V. semitomentosum* (Michx.) Rehder) and *V. recognitum* (*V. dentatum,* α. *lucidum* Ait.) are both hopelessly variable in leaf-outline and toothing of leaves, each of them with blades varying from lance-ovate or ovate-oblong to orbicular, with veins prominent beneath or obscure, with length from 2.5 to 10 cm. and breadth from 2 to 8 cm. In the series with usually pubescent new branchlets and more or less pubescent leaf-surfaces and inflorescences these different leaf-outlines have formed the bases for several so-called species and varieties; in *V. recognitum* exactly parallel leaf-variations have been quite as consistently ignored. The type of *V. dentatum* can be easily matched in shape, size and toothing of leaf by many sheets of unquestioned *V. recognitum.* The type of Michaux's *V. dentatum* β. *semitomentosum* from South Carolina, basis of *V. semitomentosum* (Michx.) Rehder, is closely matched in leaf-outline by some extreme (elongate-leaved) specimens of *V. venosum*

[1] S. F. Blake, *On the Names of some Species of Viburnum,* Rhodora, xx. 11–15 (1918).
[2] H. K. Svenson, *Plants of Southern United States, I. Viburnum dentatum,* Rhodora, xlii. 1–6 (1940).

from southeastern Massachusetts, by authentic material of *V. dentatum β. scabrellum* T. & G. or *V. scabrellum* (T. & G.) Chapm., by some of Canby's material of *V. pubescens* var. *Canbyi* (Rehder) Blake, as well as by authentic sheets of *V. pubescens* var. *indianense* Rehder. In other words, most of these reputed varieties, dependant for their recognition upon evasive degrees of pubescence and leaf-outline, are scarcely to be accorded true varietal rank; at best they are rather trivial forms. And even the most extreme of these variations in leaf-outline can be fairly matched in the more glabrous *V. recognitum*, in which, as noted, no varieties have been thought worthy recognition by our students of trees and shrubs.

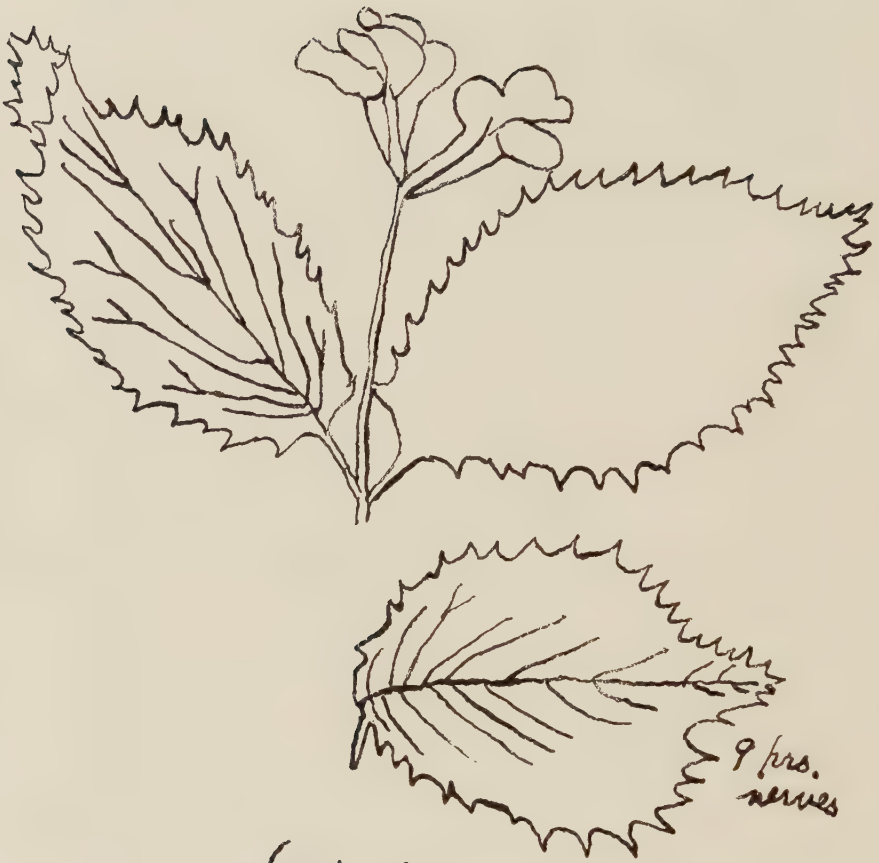
The strongest departure from the regular run of leaf-variation in *Viburnum dentatum* which I see is in the type of *V. dentatum β. pubescens* Ait., therefore of *V. pubescens* (Ait.) Pursh. This type was traced by Blake in 1915 and his tracing (see p. 650) is preserved in the Gray Herbarium. It is, therefore, somewhat perplexing to find him, in 1918, writing that "The type of *β. pubescens*, marked 'Hort. Dr. Lee,' and labeled in Solander's own hand, is a characteristic specimen of the plant now passing as *V. venosum* Britton"; and then recognizing, in his summary, not only "VIBURNUM PUBESCENS (Ait.) Pursh.—*V. venosum* Britton" but, likewise, "V. PUBESCENS (Ait.) Pursh var. **longifolium** (Dippel).—*V. dentatum* var. *longifolium* Dippel . . . *V. venosum* var. *longifolium* (Dippel) Rehder". The perplexity arises through the fact that *V. dentatum β. pubescens* Ait. was originally accurately described "foliis ovato-oblongis acuminatis subtus villosis, petiolis elongatis", while *V. venosum* Britton was originally and correctly described with "blades broadly ovate to orbicular"; and Britton correctly so illustrated the most typical leaf-outline of his own *V. venosum* in Ill. Fl. iii. 272 (1913). I have counted the commonly broad and deltoid (though sometimes prolonged) teeth on the leaf-margins of all the plastic forms of *V. dentatum* and *V. recognitum*. They range from 4–18 (very rarely to 22) on each side of the midrib. The tracing of Aiton's type of *V. dentatum* var. *pubescens* made by Blake shows ovate-oblong leaves with 16–22 *lance-falcate* teeth. It is closely matched by authentic material of *V. dentatum* var. *longifolium* Dippel or *V. venosum* var. *longifolium* (Dippel) Rehder or *V.*

pubescens var. *longifolium* (Dippel) Blake, this variety being a shrub long cultivated in Europe, whence it was received at the Arnold Arboretum. Rehder, Man. Cult. Trees and Shrubs, ed. 2: 841 (1940) correctly describes it with "Lvs. narrower and longer, usually ovate-oblong." The type of *V. pubescens* (*V. dentatum β. pubescens* Ait.) was also correctly described "foliis ovato-oblongis", and Blake's tracing of it is closely matched by material from the Arnold Arboretum of *V. dentatum* var. *longifolium* Dippel, not only in leaf-outline but in the very numerous, slender and falcate teeth. That var. *longifolium* is the same as typical var. *pubescens* Ait., also described from material in European gardens, I am satisfied.

Besides *Viburnum dentatum,* var. *pubescens* Ait. (known primarily in cultivation) the only variation within the species which seems to me worthy recognition as a geographic variety is the inland extreme with glabrous or nearly glabrous branchlets, the petioles often with subpersistent basal stipules, whereas the highly variable but confluent series with pubescent branchlets very rarely shows stipules. This extreme is

V. DENTATUM L., var. **Deamii** (Rehder), comb. nov. *V. pubescens,* var. *Deamii* Rehder in Journ. Arn. Arb. v. 58 (1924) and var. *indianense* Rehder, l. c. 59 (1924).

These varieties proposed by Rehder, *V. pubescens,* vars. *Deamii* and *indianense,* show less difference than do *V. venosum* Britton and *V. venosum,* var. *Canbyi* Rehder, which, as I have seen them in the field, are edaphic phases of a single shrub, the extreme in more exposed habitats having thick, sulcate-ribbed and strongly pubescent leaves, the extreme in more protected spots having thinner, flatter and less pubescent blades. The keen observer, C. C. Deam, who had collected the original material of both of Rehder's proposed varieties, wrote, in 1924, of var. *indianense:* "This shrub very much resembles the preceding [var. *Deamii*], from which it is sometimes very doubtfully separated. For this reason, the writer believes that a further study of the two shrubs will show that this is only a form of the preceding"—Deam, Shrubs of Indiana, 321 (1924). After "further study", in 1932, Deam, in his 2nd edition (p. 350), seems not to have altered his opinion.



(Type of V. dentatum L.
var pubescens Ait.!
Br. Mus. 30.815)

Viburnum dentatum B. pubescens

Viburnum pubescens, Pursh

That *Viburnum recognitum* is *V. dentatum* α. *lucidum* Ait. there is no doubt but, since there is already a *V. lucidum*, Aiton's name can not be taken up. It is not improbable that it is also *V. dentatum* α. *glabellum* Michx. Fl. Bor.-Am. i. 179 (1803). My photograph of the latter, taken in 1903, looks like it but, because there is already an American *V. glabratum* HBK. (*V. glabrum* Willd. ex Schultes) it is wiser not to make confusion by taking up Michaux's varietal name for a species.

As pointed out by Mr. Bayard Long in Stone's Plants of Southern New Jersey, 709, the flowering and fruiting periods in the same region of *V. dentatum* true (*V. scabrellum*, etc.) and of *V. recognitum* ("*V. dentatum*" of authors, not L.) are very different. The shrub with pubescent branchlets, foliage and cyme flowers in southern New Jersey from "Mid-June to early July" and its fruits are mature from "Early September to early October". In the same region *V. recognitum*, with glabrous branchlets and cyme and glabrous or glabrate foliage, flowers from "Late May to mid-June", the fruit maturing from "Early August to early September". On Nantucket Island, the type region of *V. venosum* Britton, Bicknell recorded[1] the glabrous *V. recognitum* (*V. dentatum* of Bicknell) as "just in flower June 22, . . . no flowers remaining July 12", but the pubescent *V. dentatum* (*V. venosum*) with "forward bushes just in flower June 30 . . . , everywhere in showy bloom July 4 to 13". Similarly on Cape Cod and Martha's Vineyard, the very large representation of the two in the herbarium of the New England Botanical Club gives the following: V. DENTATUM (*venosum*), flowers June 28–August 14, ripe fruit August 26–November 1; V. RECOGNITUM, flowers June 16–July 5, ripe fruit August 6–September 19. Throughout their coincident ranges, then, *V. dentatum* (*venosum*) is in prime of flowering 10 days to 3 weeks later than *V. recognitum;* while the former matures its fruit 3 to 4 weeks later. The ripe drupes of *V. dentatum* range from 5–8 mm. long; those of *V. recognitum* are slightly but not strikingly smaller (5–7 mm.). Ordinarily the stones of *V. dentatum* are ellipsoid-ovoid, those of *V. recognitum* more globose-ovoid; and the ventral groove of the stone in the former is narrow, deep and furrow-like, in the latter broader, shallow and trough-like.

[1] E. P. Bicknell, Bull. Torr. Bot. Cl. xlii. 347, 348 (1915).

V. dentatum is a southern species, occurring from Florida to Texas, north to southeastern Massachusetts, Block Island (Rhode Island), Long Island, New Jersey, Pennsylvania, West Virginia, southern Ohio, central Indiana and Missouri. *V. recognitum* is more northern: New Brunswick to southern Ontario, south to South Carolina (or Georgia), northern Ohio and Michigan.

*V. NUDUM L., var. ANGUSTIFOLIUM Torr. & Gray. YORK COUNTY: wooded swamp along Carter's Creek, about 8 miles north of Williamsburg, *Grimes*, no. 3589. SOUTHAMPTON COUNTY: depression in sandy pine woods north of Point Beach, south of Franklin, no. 13,166; rich woods in ravine of small brook south of Applewhite's Church, no. 13,167.

Viburnum nudum, in its typical development, is a coarse, often tree-like shrub with the mature leaves of the fertile branches elliptic to narrowly ovate or obovate and 6–15 cm. long, by 2.5–7.5 cm. broad, the cymes 7–10 cm. broad. It extends northward to southern Connecticut, Kentucky and Arkansas. Var. *angustifolium* is lower, the mature leaves of the fertile branches lanceolate to narrowly oblong and 3.5–10 cm. long, by 1.7–3 cm. broad, its cymes only 2.5–7 cm. broad. It occurs in bogs, savannahs and wet woods from Florida and Alabama to southeastern Virginia. The Grimes material belongs in the variety but not in its more extreme development. Our no. 13,166 is more characteristic.

*SAMBUCUS NIGRA L. DINWIDDIE COUNTY: waste ground, Petersburg, no. 12,486. See p. 511.

The European species, here probably spread from cultivation.

CAMPANULA APARINOIDES Pursh. SUSSEX COUNTY: wooded springhead by Nottoway River, south of Chub, no. 12,484.

Our first Coastal Plain station in the state. See p. 507.

C. AMERICANA L. Range extended down the James to ISLE OF WIGHT COUNTY (several nos.). See p. 520 and MAP 7.

LOBELIA SIPHILITICA L. Range extended down the James to ISLE OF WIGHT COUNTY (several nos.). See p. 520.

*VERNONIA GLAUCA (L.) Willd., forma **longiaristata,** f. nov., phyllaribus longe aristatis, aristis 4–6 mm. longis.—Occasional in range of typical *V. glauca*. NEW JERSEY: loamy, wooded slope, west of Chestnut Branch of Mantua Creek, Sewell, Gloucester County, September 22, 1920, *Long*, no. 23,399. VIRGINIA:

rich calcareous wooded ravine west of Claremont, Surry County, August 28, 1940, *Fernald & Long*, no. 12,836 (TYPE in Herb. Gray; ISOTYPE in Herb. Phil. Acad.); rich wooded slope just above the "fall-line" by Three Creek, northwest of Emporia, Surry County, August 17, 1940, *Fernald & Long*, no. 12,835. NORTH CAROLINA: rocky woodland, Oxford, Granville County, July 28, 1938, *Godfrey*, no. 5521; thicket near Siler City, Chatham County, October 14, 1938, *Godfrey*, no. 6975.

Typical *V. glauca*, as shown by heads of the Clayton plant given to Asa Gray in 1839, the only material cited by Linnaeus under his *Serratula glauca* which he had actually studied, has the broad phyllaries barely tipped by short awns. It is from characteristic material of the plant now generally known as *V. glauca*, in which the awns vary from none on some phyllaries up to 4 mm. long. Forma *longiaristata*, growing in rich woodlands with typical *V. glauca* or in colonies by itself, simulates *V. noveboracensis* of more peaty habitats in its involucre but in its foliage and pale brownish pappus is good *V. glauca*.

EUPATORIUM ALTISSIMUM L. ISLE OF WIGHT COUNTY: rich calcareous wooded slopes by Burwell's Bay, James River, below Rushmere (Fergusson's Wharf), no. 12,848; seeping argillaceous and calcareous bluffs near Rushmere, no. 12,849.

Our first evidence of this inland and upland species on the Coastal Plain. See p. 525.

E. SESSILIFOLIUM L. SURRY COUNTY: thicket back of sand-beach of Cobham Bay, James River, northwest of Chippokes, no. 12,851.

As in the preceding, our first Coastal Plain station. See p. 521.

E. SESSILIFOLIUM, var. VASEYI (Porter) Fernald & Griscom. Local range extended northward. CHESTERFIELD COUNTY: thicket south of Dutch Gap, no. 12,852. HENRICO COUNTY: open thickets, South Richmond, no. 12,853.

E. INCARNATUM Walt. SURRY COUNTY: rich calcareous wooded ravine west of Claremont, no. 12,856. PRINCESS ANNE COUNTY: rare, Munden, September, 1905, *Mackenzie*, no. 1773. See p. 520.

Although long ago reported from Virginia, the two nos. above cited are all that have come to the Gray Herbarium. The corollas are a pale lilac, not of the deeper color we had expected.

SOLIDAGO GIGANTEA Ait., var. LEIOPHYLLA Fernald. SUSSEX COUNTY: rich woods by Nottoway River, southeast of Stony Creek, no. 12,488.

Our first Coastal Plain station. See p. 509.

*Aster laevis L., forma **amplifolius** (Porter), stat. nov. *A. laevis*, var. *latifolia* Porter in Bull. Torr. Bot. Cl. xxi. 121 (1894), not *A. latifolius* Desf. (1829). *A. laevis amplifolius* Porter in Mem. Torr. Bot. Cl. v. 324 (1894).

Our Virginian material is from Isle of Wight County: seeping argillaceous and calcareous bluffs along Burwell's Bay, James River, near Rushmere (Fergusson's Wharf), no. 12,865, some of the obtuse and oblong-elliptical rosette-leaves abruptly contracted at base, the blades up to 6 cm. broad.

A. infirmus Michx. Local range extended into Surry County: rich calcareous wooded ravines west of Claremont, no. 12,868. See p. 520.

A. tenuifolius L. Extending up the James to Surry County: fresh to brackish tidal marshes, Hog Island, no. 12,866.

*Erigeron quercifolius Lam. Henrico County: freight-yard of Atlantic Coast Line Railroad, Richmond, no. 12,869.

Extension north from North Carolina. See p. 516.

*Erigeron **scaturicola,** sp. nov. (tab. 695, fig. 1 et 2), perennis caudice plus minusve multicipito; foliis basilaribus rosulatis carnosis obovatis subintegris vel undulato-dentatis late petiolatis 0.5–3 dm. longis 2–12 cm. latis; caulis laxe adscendentibus vel suberectis mollibus (1–)3–8 dm. altis basi villosis supra glabrescentibus laxe corymboso-ramosis; foliis caulinis carnosis obovatis vel late oblongis vel ovatis integris vel parce dentatis glabris vel glabratis imis basi plerumque contractis, mediis superioribusque basi late rotundatis vel subamplexicaulibus 1.5–6 cm. latis; corymbis laxe ramosis, capitulis junioribus erectis longe pedunculatis; involucris hemisphericis, phyllaribus lineari-oblongis acutis viridibus albido-marginatis 5–8 mm. longis glabris vel dorso sparse setosis; ligulis numerosissimis albidis phyllaribus duplo longioribus; acheniis lineari-columnaribus vel linearioblanceolatis olivaceis 1 mm. longis glabris vel strigosis glabratisque; receptaculi denudati foveis quam jugis latioribus.—Seeping and springy calcareous marl-bluffs and adjacent beaches of the James River, Isle of Wight and Surry Counties, Virginia: Isle of Wight County: seeping argillaceous and calcareous bluffs along Burwell's Bay, James River, below Rushmere (Fergusson's Wharf), August 27 and 29, 1940, *Fernald & Long*, nos. 12,870 and 12,871; under crest of seeping calcareous bluff of James River, below Fort Boykin, June 14, 1941, no. 13,179; thickets and open woods back of beach of James River, west of Fort Boykin, June 14, 1941, no. 13,180; steep bushy calcareous bluff below Fort Boykin, June 14, 1941, no. 13,178; seeping calcareous wooded bluff west of Fort Boykin, June 14 and 16, 1941, no.

Photo. B. G. Schubert.

ERIGERON SCATURICOLA: FIG. 1, two small plants, × 2/5, showing characteristic elongate caudex; FIG. 2, portion of denuded receptacle, × 9.
E. PHILADELPHICUS: FIG. 3, denuded receptacle, × 9.

13,181 (TYPE in Herb. Gray; ISOTYPE in Herb. Phil. Acad.) and no. 13,182. Surry County: base of seeping calcareous wooded slope by James River, below Sunken Meadow Beach, June 16, 1941, no. 13,183; seeping calcareous and argillaceous bluffs along James River, Claremont, September 7, 1941, *Fernald & Long*, no. 13,822.

Erigeron scaturicola (from *scaturex*, a gushing spring) is apparently a local ally of the wide-ranging *E. philadelphicus* L. of meadows, damp shores and thickets across the continent, a species represented in tidewater Virginia in only a few meadows and damp woodlands of Surry and Princess Anne Counties. *E. philadelphicus* is a short-lived perennial or biennial without strongly developed caudices; *E. scaturicola* a deep-rooted perennial with stout branching rhizome and elongate caudices. The leaves of *E. philadelphicus* are relatively narrow, scarcely or rarely amplexicaul, villous and of submembranaceous texture; the glabrous or glabrate leaves of *E. scaturicola* are fleshy and brittle, those of the basal rosettes much larger than in *E. philadelphicus*, the middle and upper cauline ones subamplexicaul and large, the bracteal ones much broader than in *E. philadelphicus*. In *E. philadelphicus* the usually single erect stems terminate in regular corymbs with the young and unexpanded heads nodding. In *E. scaturicola* the loosely ascending, arching or sometimes erect stems fork down to or below the middle into a loose inflorescence, with the young peduncles ascending, not nodding. The involucre of *E. philadelphicus* is commonly villous, that of *E. scaturicola* glabrous or nearly so. The ligules of *E. philadelphicus* are flesh-pink to deep-lilac (white in rare forms) and 2–3 times the length of the phyllaries. The achenes of the two species are similar but usually glabrous or more promptly glabrate in *E. scaturicola*. The denuded receptacles, after the falling of the achenes are somewhat different. In *E. philadelphicus* the pits of the receptacle (FIG. 3) are minute, with a subulate projection (the stipe of the disarticulated flower), and the separating ridges are broader than the pits; in *E. scaturicola* the broad and shallow pits (FIG. 2) show no subulate projections and are broader than the separating ridges.

So far as we yet know *Erigeron scaturicola* is confined to the dripping or seeping spring-fed bluffs (and adjacent thickets and

beaches below the bluffs) of soft and pasty Miocene fossiliferous marls along the lower James River in Isle of Wight and Surry Counties. Where the Miocene beds are solidified (as at Scotland Ferry, for instance) there is no trace of it. In the region of its best development, from Burwell's Bay (Fergusson's Wharf) near Rushmere to the rapidly collapsing bluffs below Old Fort Boykin, it is associated with a considerable flora of localized species with disrupted ranges. Late in the season the old flowering stems may lop over into the dripping marl and clay and there form new rosettes and flowering stems from the axils of the fallen leaves (our no. 12,871). See p. 524.

In PLATE 695, FIG. 1 is two small plants, × 2/5, of ERIGERON SCATURICOLA from the TYPE-number; FIG. 2, portion of denuded receptacle, × 9, from TYPE. FIG. 3 is a denuded receptacle of E. PHILADELPHICUS L., × 9, from Hanover, New Hampshire, July 6, 1910, *E. F. Williams.*

GNAPHALIUM SPATHULATUM Lam. To the single recorded station (in Henrico County) add one in DINWIDDIE COUNTY: waste ground and cinders of freight-yard of Atlantic Coast Line, Petersburg, no. 12,491. See p. 511.

SILPHIUM COMPOSITUM Michx. Local range extended eastward into NANSEMOND COUNTY: dry sandy pineland southwest of Marsh Hill School, south of South Quay, nos. 12,878 and 12,879.

No. 12,878 is quite like a photograph of Michaux's type of *S. compositum,* which was clearly described "foliis radicalibus trifoliatis; foliolis petiolatis, inaequaliter sinuato-multipartitis". This is one of the extremes of the species and it was separated by Small as *S. lapsuum* Small.

*RUDBECKIA SPATHULATA Michx. GREENSVILLE COUNTY: margin of low woods southeast of Emporia, no. 11,195 (distrib. as *R. fulgida*).

The first from north of North Carolina, unless a specimen so identified (but inadequate for study), from Augusta County, *Carr,* no. 808, belongs here. The Virginia plant called by Gray *R. spathulata,* in preparing his treatment for the Synoptical Flora, belongs to *R. umbrosa,* occurring from the Blue Ridge and the Alleghenies to the Ozark region. This specimen is

*R. UMBROSA Boynton & Beadle. BEDFORD COUNTY: October 1, 1871, *A. H. Curtis* (as *R. fulgida*).

The three species here involved are separated by the following characters.

Basal and lower cauline leaves ovate, broadly rounded to subcordate at base, 3.5–5 cm. broad; ligules 1.5–3 cm. long. *R. umbrosa.*

Basal and lower cauline leaves lanceolate or oblanceolate to narrowly obovate or narrowly elliptic, gradually tapering at base, 0.5–4.5 cm. broad; ligules 1–2 cm. long.

Middle and upper internodes and bases of leaves spreading-hirsute; basal and petioled cauline leaves 2–4.5 cm. broad; involucre 1–2.2 cm. long, its larger phyllaries 2.5–7 mm. broad ..... *R. fulgida.*

Middle and upper internodes glabrous to strigose-hispid; bases of leaves appressed-short-strigose; basal and petioled cauline leaves 0.5–2 cm. broad; involucre 5–9 mm. long, its larger phyllaries 1–2 mm. broad ..... *R. spathulata.*

R. TRILOBA L. Range extended down the James to ISLE OF WIGHT COUNTY: thicket back of sand-beach of Burwell's Bay, below Rushmere (Fergusson's Wharf), no. 12,883.

HELIANTHUS MOLLIS Lam. To the few recorded stations add one in HENRICO COUNTY: thickets and borders of woods, Richmond, no. 12,884.

H. DECAPETALUS L. Range extended down the James to ISLE OF WIGHT COUNTY: (several nos.).

*COSMOS SULPHUREUS Cav. ISLE OF WIGHT COUNTY: roadsides and waste places, Rushmere (Fergusson's Wharf), no. 12,889. DINWIDDIE COUNTY: roadsides and waste places, Petersburg, no. 13,831.

A garden plant, likely to become more common as an escape.

*ANTHEMIS SECUNDIRAMEA Bivona. HENRICO COUNTY: waste places and railroad ballast, Richmond, no. 12,500.

A short-rayed species from the Mediterranean. See p. 516.

*SENECIO CRAWFORDII Britton. SURRY COUNTY: bottoms of rich calcareous wooded ravines west of Claremont, no. 12,892, very local. See p. 521.

First from south of Prince George County, Maryland.

*LACTUCA HIRSUTA Muhl., var. SANGUINEA (Bigel.) Fernald, forma **indivisa,** f. nov., foliis caulinis oblongis vel subrotundatis remote dentatis nec lobatis. VIRGINIA: low woods and thickets near Hunting Quarter Creek, southwest of Lumberton, Sussex County, July 10, 1940, *Fernald & Long* (TYPE in Herb. Gray).

NOTES ON MISSOURI PLANTS

Julian A. Steyermark

All specimens representing the plants discussed below may be found in the Herbarium of the Field Museum of Natural History.

Scirpus Torreyi Olney. Represented by *Steyermark 27146*, around deep part of margin of upland sink-hole pond along highway 32, sect. 6, 1¼ mi. north of Lynchburg, Laclede Co., June 23, 1939.

This adds another to the list of relic plants from the northern and northeastern parts of the United States isolated in and around these upland sink-hole ponds. Besides this species, *Najas gracillima* (A. Br.) Morong, *Glyceria acutiflora* Torr., and *Carex decomposita* Muhl. are restricted in Missouri to such ponds. The slender weak rootstock, obtusely 3-angled culms, nodulose leaves fibrillose at base, blunt involucral leaf, oblong or spindle-shaped spikelets, smooth barely mucronate scales, and 3-cleft styles distinguish this species easily from *S. americanus*.

Scirpus heterochaetus Chase. The following collections, determined by Mr. Allan A. Beetle who is monographing this group of species, are from Missouri: *George Moore*, Wire Road, Laclede Co., July 12, 1937; *Steyermark 23292*, margin of upland pond, 3½ mi. south of Licking, Texas Co., July 15, 1937.

Carex microdonta Torr. & Hook. Previously known from wet prairies in Kansas, Oklahoma, Mississippi, and Texas, this species was recently collected by the writer in Missouri: *Steyermark 27682*, limestone glade on top of southwest-facing bluffs along Big Maries River, T 42 N, R 10 W, sect. 24 and 25, 5 mi. northwest of Freeburg, Osage Co., July 1, 1939. This specimen has been determined by Dr. F. J. Hermann.

Carex subimpressa Clokey, Rhodora **21:** 84. 1919. The type of this species was collected in Macon Co., Illinois; it has also been found in Indiana. This is its first known record from Missouri: *Steyermark 26489*, in swamp in alluvial bottoms of Mississippi River along highway 61, 2 mi. north of Canton, Lewis Co., May 14, 1939. This collection has been determined by Dr. F. J. Hermann.

This species, which is considered a hybrid between *Carex lanuginosa* and *Carex hyalinolepis*, was growing in dense colonies with one of its parent species, *C. lanuginosa* (*Steyermark 26490*) and with *C. vesicaria* (*Steyermark 26489a*). Although no collections of the other supposed parent (*C. hyalinolepis*) were

taken from this area, it probably occurs in the near vicinity. The hybrid plants had creeping rootstocks, grass-green leaves with glabrous sheaths, hairy perigynia, and prominent teeth of the perigynium-beak. The plants in general were more robust than *C. lanuginosa* but less so than *C. hyalinolepis* or *C. vesicaria.*

CAREX VIRESCENS Muhl. In the "Annotated Catalogue of the Flowering Plants of Missouri" by E. J. Palmer and the writer *Carex virescens* Muhl. was recorded from Scott, Dunklin, Butler, and Ripley counties. These records refer and should be transferred, however, to what is now called *Carex Swanii* (Fern.) Mack., in Bull. Torr. Bot. Club **37:** 246. 1910 and N. Am. Fl. 18^6: 321. 1935, and based upon *Carex virescens* var. *Swanii* Fern., since all the collections mentioned in these counties have the subglobose to thick-cylindric spikes 3–5 mm. thick and with less strongly ribbed perigynia characteristic of *Carex Swanii.*

In Mackenzie's treatment of Carex in N. Am. Fl. 18^6: 321–322. 1935, *Carex virescens* Muhl. is shown as occurring west to Indiana, Ohio, Kentucky, and Tennessee. A recent collection by the writer from Missouri, and verified by Dr. F. J. Hermann, shows that its range extends west of the Mississippi River. This Missouri collection is represented by *Steyermark 27161,* shaded north-facing sandstone ledges along Jack's Fork of Current River, from ½ mile of Shannon Co. line to near Shannon Co. line, T 28 N, sect. 36, 5½ mi. southeast of Arroll, Texas Co., June 23, 1939. This collection has the linear-cylindric spikes, costate perigynia, and other characters of typical *C. virescens,* a species of the more northern and northeastern parts of the United States.

TRADESCANTIA THARPII Anderson & Woodson × T. CANALICULATA Raf. This hybrid has not previously been noted, either by the writer or in Anderson and Woodson's studies of Tradescantia. It is represented from Missouri by the following collection: *Steyermark 22224,* limestone glade along Johnson Creek, T 29 N, R 26 W, sect. 36, ½–2½ mi. southwest of Spencer, 6–7 mi. west of Halltown, Lawrence Co., May 6, 1939.

Both of the parent species occurred on this glade. The plant collected had the glaucous appearance of *T. canaliculata,* but the low stature and pubescence of *T. Tharpii.*

Juncus kansanus Hermann. Originally described from Kansas by Hermann in Papers Mich. Acad. Sci. **20:** 41. 1935, it was collected about twenty-five years ago from Pike County, Missouri, by Reverend *John Davis*, and this collection has been its only record from the state. Recently, the writer found this species in the western part of the state nearer the Kansas area, and this collection, verified by Dr. F. J. Hermann, is represented by the following: *Steyermark 27508*, upland sandstone glades, T 36 N, R 26 W, sect. 36, 2 mi. southwest of Birdsong, St. Clair Co., June 27, 1939.

The short congested inflorescence, the ascending perianth-segments, completely 3-celled capsules, bract longer than the inflorescence, and the firm membranaceous auricles which are slightly produced, distinctly mark this species.

Sisyrinchium campestre Bicknell, forma **kansanum** (Bicknell), comb. nov.—*S. campestre* Bicknell, var. *kansanum* Bicknell, Bull. Torr. Bot. Club **26:** 344. 1899.

The white-flowered *Sisyrinchium campestre* var. *kansanum* Bicknell appears to have no differentiating characters other than corolla-color and seems best treated as a form.

Sisyrinchium campestre Bicknell, forma **flaviflorum** (Bicknell), comb. nov.—*S. flaviflorum* Bicknell, Bull. Torr. Bot. Club **26:** 345. 1899.

This yellow-flowered variation also may be considered as worthy only of formal status.

On page 92 of my Spring Flora of Missouri, both of the above combinations were given by mistake, but due to an oversight by the printer, the writer, away on an extended trip, did not have the opportunity of correcting the error in time. In order that these combinations may have a legitimate status, they are given above in their desired form with complete bibliographical data.

Populus deltoides Marsh., f. **pilosa** (Sarg.) Palmer & Steyermark, comb. nov. *P. balsamifera* var. *pilosa* Sarg. Journ. Arnold Arb. **1:** 63. 1919. *P. deltoides pilosa* (Sarg.) Sudw. Check List Forest Trees U. S. 65. 1927. This rare hairy-leaved form has been, until recently, collected in Missouri but once, that in Dunklin County. Recently, the writer collected it in the Ozark region, at the second station known in the state, as represented by the following collection: *Steyermark 26530*, in back of gravel bar along Middle Fork of Black River, just west of Lesterville, Reynolds Co., May 21, 1939.

This collection has the petioles as well as the leaf-surface hairy.

Silene stellata (L.) Ait. f., var. scabrella (Nieuwl.) Palmer & Steyermark, Ann. Mo. Bot. Gard. 25: 781. 1938.

The writer by an oversight published an unnecessary new combination (Rhodora **42:** 99. 1940). This latter combination should be disregarded in favor of the earlier one by Palmer and Steyermark. An earlier distribution set of the Gray Herbarium Card Index attributed the combination *Silene stellata* var. *scabrella* to Nieuwland (Am. Midl. Nat. 3: 58–59. 1913). This combination was cited as such and attributed to Nieuwland in Deam's Flora of Indiana. It is a question, however, whether Nieuwland should be given as the authority of this combination. In Am. Midl. Nat. **3:** 58. 1913, Nieuwland actually placed his "var. nov." after *Evactoma stellata* var. *scabrella*, while below this category he simply printed in italics "Silene stellata var. scabrella"; in other words, Nieuwland considered the latter name a synonym, and expressed his preference for the name *Evactoma stellata* var. *scabrella*, favoring the use of the genus *Evactoma* over *Silene* throughout the paper. But, according to Art. 40 of the International Rules of Nomenclature "A name of a taxonomic group is not validly published when it is merely cited as a synonym". Therefore, it appears that the name *Silene stellata* var. *scabrella* was not properly published by Nieuwland, and that the combination must be attributed to Palmer and Steyermark in their publication in 1938.

Euphorbia corollata L., var. angustifolia Ell. Sk. **2:** 659. 1824. This variety, distinguished by its linear to linear-lanceolate leaves, has not been reported previously from Missouri. It is represented by the following collection: *Steyermark 27692*, limestone glade on southwest-facing limestone bluffs along Big Maries River, T 42 R, R 10 W, sect. 24 and 25, 5 mi. northwest of Freeburg, Osage Co., July 1, 1939. Another collection from Missouri, belonging to this variety, is in the Herb. Field Mus.; it is "Valley Park, May 29, 1887, *William Trelease.*"

The leaves in this variety average from 3–5 mm. broad and 4–6 cm. long.

Acer nigrum Marsh., f. pubescens Deam, Fl. Ind. p. 657. 1940. This form, distinguished by the petioles more or less pubescent their entire length, was reported from Atherton,

Jackson Co., Missouri, by Deam. A second collection, made recently by the writer, is represented by the following: *Steyermark 22148*, base of rich wooded limestone slopes with Roubidoux sandstone above, along Dry Fork of Meramec River, T 38 N, R 6 W, sect. 33, 4 mi. southeast of St. James, Phelps Co., May 5, 1939.

Elatine triandra Schkuhr, var. americana (Pursh) Fassett. This species has been collected in Missouri in Jackson County (*Bush 131*, 1898), but since that date had never been found in the state. Recently, the writer discovered a second station bordering a sink-hole pond; it is represented by the following collection: *Steyermark 27219*, upland sink-hole pond along highway 5, 7 mi. north of Lebanon, Laclede Co., June 24, 1939.

This pond was at one time, according to the inhabitants in the area, much deeper and contained more water than at present, but, due to the growth and increase of *Nelumbo pentapetala* and *Ludvigia palustris* var. *americana*, it has been filling up gradually. The *Elatine* was rooting on the muddy margin of a raised muddy island in the pond. It is another one of the rare relic species isolated in Missouri around such ponds.

Rotala ramosior (L.) Koehne, var. typica Fern. & Griscom, Rhodora **37:** 169. 1935. The typical variety, distinguished by its generally smaller parts throughout, the plant rarely 2 dm. tall, the leaves 1.5–5 mm. broad, longer-petioled than the var. *interior* Fern. & Griscom, with subulate bractlets 0.5–1.4 mm. long, and smaller fruits (2–3.3 mm. broad and 2–4 mm. long), has a distribution along the coastal plain from Mass. to Fla. and Tex., the sands of southern Michigan, northern Indiana, Illinois, and Minnesota, and also Washington and Oregon. It has not been known from Missouri previously. Throughout the range of the species in Missouri var. *typica* is usually replaced by the larger and coarser *Rotala ramosior* var. *interior*. The writer found recently, however, around one of these upland sink-hole ponds, where so many other relic species of the northern and eastern United States are isolated, a colony that should be referred to *Rotala ramosior* var. *typica*, agreeing with it in all critical details. This is a range extension of several hundred miles for this variety. It is represented by the following collection from Missouri: *Steyermark 27136*, bordering upland sink-hole pond along highway 32, sect. 8, 0.7 mi. east of Lynchburg, Laclede Co., June 23, 1939.

Osmorhiza longistylis (Torr.) DC., var. brachycoma Blake, Rhodora **25:** 110. 1923. This variety, distinguished from *O. longistylis* var. *villicaulis* Fern. by its prevailing puberulence of much shorter hairs at most 0.5 mm. long instead of long villous

pubescence of hairs 1–2 mm. long, has not been known previously from Missouri. It is represented by the following collection: *Steyermark 22179*, upper part of wooded limestone bluffs with Roubidoux sandstone above, along Dry Fork of Meramec River, T 38 N, R 6 W, sect. 33, 4 mi. southeast of St. James, Phelps Co., May 5, 1939.

Penstemon Digitalis (Sweet) Nutt., forma **Baueri,** f. nov., a typo recedit foliis ternatis.—Wooded southwest-facing limestone bluffs along Maries River, T 43 N, R 10 W, sect. 18, 3 mi. northeast of Westphalia, Osage Co., Missouri, July 1, 1939, *Julian A. Steyermark 27665*, type, in Herb. Field Mus.).

This form, distinguished by its leaves occurring in whorls of threes, is named in honor of my friend, Mr. Bill Bauer, of Webster Groves, Missouri, who accompanied me on this trip and who is an enthusiastic and keen collector.

Rudbeckia hirta L., f. flavescens Clute, Am. Bot. **21:** 56. 1915. This form, distinguished from typical *Rudbeckia hirta* by its pale yellow rays, has not been previously reported from Missouri. It was originally described from an Illinois plant. In Missouri it is represented by the following collection: *Steyermark 27149*, dry upper cherty slopes along Jack's Fork of Current River, from ½ mi. of Shannon Co. line to near Shannon Co. line, T 28 N, R 7 W, sect. 36, 5½ mi. southeast of Arroll, Texas Co., June 23, 1939.

The plant was growing with typical *R. hirta* (*Steyermark 27150*).

Chrysanthemum Balsamita L., var. tanacetoides Boiss. This species, previously unreported from Missouri, has been collected by Mr. *Oscar Petersen*, escaped from a garden, and established along a fence row, in Franklin. Co., during 1940.

Hypochaeris radicata L. This species has likewise not been reported previously from Missouri. It is represented from the state by the following collection: *Oscar Petersen*, lawn, Jewish Hospital, St. Louis, St. Louis Co., June 25, 1940.

Field Museum of Natural History,
Chicago, Ill.

Volume 43, no. 515, including pages 557–632 and plates 672–692, was issued 8 November, 1941.

ERRATA

Page 307, line 11; *for* petals *read* sepals.
Page 336, line 32; for **purpureum** read *purpureum.*
Page 390, line 2; *for* 2905 *read* 3905.
Page 390, line 3; for *Contance* read *Constance.*
Page 411, line 32; *for* ramibus *read* ramis.
Page 411, line 38; for *A.* read *C.*
Plate 699, in caption; *for* ½ *read* 2.5.
Page 482, line 8; for *trilobum,* γ. *edule* read *trilobum.* Var. γ. *edule.*
Page 482, line 9; *for* which is *read* is.
Page 486, line 19; for *austromontana* read *austro-montana.*
Page 488, line 13; *for* Surry County *read* Isle of Wight.
Page 524, line 28; *for* endomic *read* endemic.
Page 573, footnote; *for* Petrap. *read* Petrop.
Page 577, line 32; *omit* Bellingham *reference.*
Plate 683, second line of caption; *before* specimen *add* FIG. 1.

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New scientific names are printed in full-face type

RATES FOR SPECIAL NUMBERS OF RHODORA

RHODORA is issued to regular subscribers for only a small fraction of its cost. For several years the content of the volumes has justified a greatly advanced subscription rate, which has not been requested from subscribers but which eventually may be necessary unless the journal returns to its original modest size, with 16–24-page numbers and few or no illustrations. For the present the price per year to regular advance subscribers is unchanged. Many of the single numbers, however, can be supplied only at special prices, as follows:

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